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ABSTRACT

This document defines cooperative education as any form of occupational or professional activity that required the cooperation of both school and the labor market. In some cases, this might be the school and industry or business. In this process, evaluation is defined as the improvement of learner success through measurement of program components. Stress is placed on translating evaluational programs into documentation of individual learner success. This program approach tries to cut across courses in order to stress growth that is both upward and cumulative. This growth process is contrasted with growth that is horizontal and additive in the sense of more of the same rather than more complexity and depth. Twelve learning environments are also provided which give short and simple approaches to a humanistic evaluation of cooperative education programs. (Author/DEP)

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TITLE

EVALUATING COOPERATIVE EDUCATION PROGRAMS

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EVALUATING COOPERATIVE EDUCATION HEALTH PROGRAMS

This document defines cooperative education as any form of occupational or professional activity that requires the cooperation of both school and the labor market. In some cases, this might be the school and industry or business.

In this process, evaluation is defined as the improvement of learner success through measurement of program components.

Stress is placed upon translating evaluational programs into documentation of individual learner success.

This program approach tries to cut across courses in order to stress growth that is both upward and cumulative. This growth process is contrasted with growth that is horizontal and additive in the sense of more of the same rather than more complexity and depth.

In too many schools, evaluation simply means a few faculty members filling out two or three forms. Seldom is teacher behavior changed.

Evaluation is not a means of forcing people to change. Evaluation helps people change by providing necessary assistance.

This document tries to link real evaluation procedures with cooperative education in such a way as to aim at specific and measurable outcomes of evaluation.

HUMANISTIC EVALUATION

From a humanistic point of view, failure to evaluate the results of cooperative education is possibly one of the commonest of all faults of such programs. Structuring the cooperative education program is difficult, but this is not enough. No matter how well planned, scheduled, and conducted the program is, the entire cooperative program must be evaluated.

In other words, someone must ascertain whether the cooperative eduction education program was successful. Cooperative education is so vast an undertaking that merely asking students and teachers how the program was liked or disliked is not enough. The real question of evaluation goes beyond surveying opinions about how interesting, boring, stimulating, or tiresome the cooperative education program was.

The real evaluation question is, "What did each participant employee learn?" No matter how splendid the sessions were, no matter how well the meetings were conducted, or no matter how scholarly were the presentations, the important point is to find out what each individual learned. Any experienced cooperative educat r has come up with a number of evaluation techniques that work well and are low cost. The following are presented to show that no magic formula is needed.

1. Knowledge evaluation can be achieved through oral or written tests given to find out whether or not the trainee has learned what has been told or given as a reading assignment. Such tests are best when kept simple and unelaborate. These tests should establish beyond any serious doubt whether the person in training has the required knowledge.

2. Performance evaluation is something that can be observed by the teacher or trainer to determine whether the trainee has developed the skill to do the required work. The biggest difficulty teachers have here is to avoid coaching the learner during performance evaluation. This type of skill evaluation must evaluate the learner working independently.

3. Attitude evaluation is quite different from psychoanalysis in the sense that attitude evaluation looks at attitude indicators, not interior and invisible feelings. The work done by a person in a cooperative education program should be reviewed from time to time in order to check quantity and quality of results. This type of evaluation ordinarily comes after knowledge evaluation and performance evaluation as outlined above.

Many people have been asked, "Is your cooperative education program worthwhile?"

A complicated reply to this question may be based upon statistical analysis of a wide variety of testing instruments. However, the person who asks this question wants a much more simple and direct response. Anyone who answers this question with, "Our graduates like the program. Many of the employers want to keep the cooperative education students on the job after graduation. As an inducement for this, many of these cooperative education employers give the student full credit for the training period. This means that the beginning worker, after graduation, is able to start with a salary increment equal to 6 months on the job."

The above quotation can be used be anyone who has developed a successful cooperative education program. The case history given by the specific evaluator will vary from institution to institution. However, whenever the cooperative education program is able to point to specific results in terms of employability, the evaluation has gone beyond the realm of statistics and entered a very humanistic dimension.

In some ways, the following document is quite technical. This is necessary because of the requirements of evaluating cooperative education programs. No matter how technical this document may become, it is hoped that readers employing it will recall the very human applications stressed above.

There is nothing magic about the evaluation system herein proposed, It simply enables learners and teachers to keep score in such a way as to strive for daily and long term progress.

APPLICATION WORKSHOPS

During the months of July to October, 1974, the preceding document was used at a number of workshops. These workshops were intended for evaluators of cooperative education.

In addition to stressing cooperative education evaluation, each of these workshops also went into the area of evaluating inservice education. After a while, it was noticed that the similarity of the measurement problems was enough to justify several common endeavors.

In order to provide to the evaluator of cooperative education a number of practical training activities, the following learning environments are appended beginning on page 26.

It is hoped that by going through these learning environments, the beginning evaluator will be able to systematize the evaluation task in such a fashion as to provide a comprehensive and systematic approach.

The common thread that links together these learning environments with the preceding document on evaluating cooperative education is the stress on learner development. In other words, the basic evaluation question is, "What documented evidence do we have that the cooperative education program or the inservice training program has produced a measurable result and impact on learners?"

OBJECTIVES OF EVALUATING COOPERATIVE EDUCATION PROGRAMS

Without attempting to provide an exhaustive list of objectives for evaluating cooperative education programs, the following purposes will give a good general overview. This type of overview will enable educators and students to turn out the type of evaluation which can provide implementable guidelines for progress.

The basic objectives of evaluating cooperative education programs are to:

1. Provide an activity-by-activity evaluation that identifies objectives, time period, resources, personnel, and success of outcome.
2. Identify activities and organizational mechanics which contributed or detracted from the overall objective.
3. Measure the degree to which participants have or have not met the standards of acceptable achievement inherent in the program objectives.
4. Pinpoint the extent to which major cooperative education activities enhanced or detracted from program objectives.
5. Specify the extent to which non-instructional program elements (library, material availability, location, management, housing, food, climate control, non-classroom interaction opportunities, registration procedures, stipend reimbursement, and learning contracts) facilitated learning.
6. Report the results of evaluation in a form that can be easily comprehended and applied.

BASELINE DATA FOR EVALUATING COOPERATIVE EDUCATION

Once a list of objectives have been developed for evaluating cooperative education, it is only natural to ask about the baseline data. Baseline data pinpoints the level of achievement of a particular program at its beginning.

In order to develop accurate and easy to implement collection of baseline data, the following checklist is provided. In order to use this checklist, ask whether or not the cooperative education program does the following:

YES NO 1. State objectives in behavioral terms.

YES NO 2. State objectives in terms of participant outcomes.

YES NO 3. Specify terminal behaviors acceptable as documentation that cooperative education objectives have been met.

YES NO 4. Link each learning activity to one or more of the specific objectives.

YES NO 5. Provide a minimum of one learning activity for each objective.

YES NO 6. Measure overall reaction to the program from (a) participants, (b) staff, and (c) director.

YES NO 7. Provide for spontaneous and creative input from participating students, staff, and administrators.

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INTRODUCTION

A HUMANISTIC APPROACH TO THE TECHNOLOGY OF EVALUATING COOPERATIVE EDUCATION PROGRAMS

This article contains a reasonably complete how-to-do-it kit for would-be evaluators of cooperative education. Two parts subdivide this approach.

Part 1 contains the author's implementation guidelines for evaluating cooperative education programs. Part 1 gives the three evaluation questions, three examples of these questions, and three conclusions about practical implementation.

Part 2 contains applications developed by cooperative educators who have been influenced by the author's approach. Part 2 summarizes evaluation expectations of cooperative educators. In addition, evaluation suggestions that have been found practical are provided. Both the expectancies and suggestions of cooperative educators are analyzed by a four level scale that results in the ability to document learner success due to a specific cooperative educational program components. In order to facilitate further application of this evaluation format by cooperative educators, a matrix analysis has been provided. A matrix is a simplified one page analysis that specifies objectives, evaluations, and resources in the three domains of knowledge, performance, and attitude.

PART 1

THE ALVIR APPROACH TO EVALUATION

Part 1 asks three questions that summarize local evaluation, gives three examples that show a would-be evaluator what to do, and draws three conclusions that help operationalize evaluation.

In this process, evaluation is considered as one means of improving program effectiveness. This accent on "one way" to improve effectiveness is an attempt to avoid rigidity, red tape, and monolithism.

FLEXIBILITY is stressed in these three questions by allowing each participant to express a sincere and independent approach.

SIMPLICITY is stressed in these three questions by allowing each participant to clarify the local approach until it is crystal clear to others who have never heard about this specific adaptation.

INDIVIDUALITY is stressed in these three questions by allowing several different approaches to exist side by side in cooperation and friendly competition rather than in conflict.

It is easy to name the three questions:

THE OBJECTIVE QUESTION
THE EVALUATION QUESTION
THE RESOURCE QUESTION

The objective question asks, "What is the precise benefit the learner is to achieve?" This question is intended to specify the educational target in specific terms. A more general statement of the purpose would be termed a goal rather than an objective.

The evaluation question asks, "How is this learner success to be documented?" This question stresses tests and evaluation instruments that are judged to be effective yardsticks of learner progress and gains. The progress made by the learner between the beginning of the program and the end of the program is called a gains score.

The resource question asks, "What are the alternatives open to the learner who wants to achieve in a unique style?" This question provides technological backup to the learner and the teacher. This approach assumes that there are many different ways to achieve an objective as measured by prespecified yardsticks. Each of these different approaches or resources has a unique price tag and rhythm of learning.

These three questions should be answered in general by those responsible for a specific program. A general answer given without a long wait is one quick way to pinpoint priority material. Too much reflection given at this time will involve a number of lesser priority issues. Cluttering up the overall statement of a program's purpose with excessive detail is not the intention of these questions.

LEVELS OF COOPERATIVE EDUCATION

As a result of the objective question, several different levels of cooperative education emerge. These different levels constitute a nominal scale.

Level 1 refers to general education work experience. This level takes the basic approach of learning and earning simultaneously. Very often, this level includes meeting once a week with a work experience counselor or with a cooperative general aided class that covers many things any employee would need to know such as taxes, withholdings, and fringe benefits.

Level 2 is called career orientation work experience in the pre-vocational sense of the term. This includes such things as school to employment programs and work experience career educational exploration programs. The goals of these career orientation work experience programs are to prevent dropouts and to direct learners toward an occupational choice.

Level 3 is called occupational cooperative education. This is the capstone or crowning experience approach to cooperative education. This level integrates school lab and related instruction with on-the-job training either in a single occupation or in diverse occupations.

The above three levels constitute a nominal scale because each level has a different name. As far as level 3 is concerned, this is the precise terminology for a program that involves the three following elements:

A. A training plan which spells out step-by-step the expected learner progress.
B. A written agreement that specifies working conditions, minimum wage or better, and other training agreements.
C. An educational system in which cooperative education means HIRE education.

Cooperative education requires all three elements.

DOCUMENTING LEARNER SUCCESS

The evaluation question provides a number of yardsticks that can be used to evaluate specific dimensions of cooperative educaticnal success.

Since cooperative education is not a different kind of learning, but a different way of learning, it is indeed realistic to apply the same yardsticks to cooperative education as are applied to any other educational approach.

In addition, since cooperative education involves on-the-job training, it is possible to include a number of other yardsticks in measuring its success:

A. Dollars earned on the job
B. Accuracy and mastery of marketable job skills
C. Personal satisfaction and fulfillment that accompany a good job well done
D. Productivity wherein the learner begins to take over the helm of a worthwhile experience

In non-technical terms, it can be seen that certain yardsticks emerge that give convincing proof of the practical value of cooperative education:

YARDSTICK 1

Many employers allow successful graduates of cooperative education the authorization to begin work at the first pay increment. In other words, cooperative educational programs have been evaluated by employers as better or equivalent to six months of on-the-job experience.

YARDSTICK 2

Many employers are sufficiently impressed with the quality of work done by cooperative education students as to continue a large number of these students on the same job at a better pay scale. This points out the fact that from the employers' point of view, cooperative education has been successful.

Any evaluator trying to assess the worthwhile benefits of cooperative education should consider yardsticks one and two before going on to complicated statistical analysis. In addition to these obviously observable yardsticks, attention should be given to the ability for learners to learn better when what has been taught in the classroom is seen, applied, and appreciated on the job. This apprcach to evaluation naturally goes into the mergure between self-image and productivity. Psychoanalysis is not needed to measure self-image. It is sufficient to talk to learners about what they have absorbed while working on the job.

It is not unusual to say about a project, "It was a great concept, but it hasn't worked out." This negative evaluation is necessary when a project is not producing.

One simple way to avoid negative evaluation of a good idea is to monitor the idea every step of the way. This monitoring includes scoring the project just as carefully as one would keep score during a baseball game. When the product or project is not up to standards, something should be done immediately.

There is nothing magic about a score card. Sometimes, its biggest advantage is in stirring some managers into trying something that could have been done all along. Without the impetus of the score card, this common sense and easy to implement solution might have.been overlooked.

LEARNING TECHNOLOGY

As a result of the resource question, the cooperative educator is able to benefit from a wide range of learning technology. These instruments are given to students. These instruments range from a high level of abstraction to a very concrete presentation.

It is customary to think of several levels of abstraction. The most abstract level refers to words. The most concrete level refers to direct experience.

The following two columns spell out this gradation:

The first column refers to the level of abstraction.

The second column gives an example of each level.

LEVEL	EXAMPLES
Words	Lectures, printed material
Graphics	Charts, diagram, graphs
Auditory Aid	Recordings, tapes
Still picture	Photos, slides, slide films
Video-tape and motion pictures	Documentation, animations
Live TV	Immediate, visual shows
Exhibit	Display of objects
Field Trip	Familiarization
Demonstrations	Lab Instruction
Simulation	Devices, role plays
Direct Experience	Guided, actual work

The difference between the degree of abstraction present in related instruction and in cooperative education is not always found in the level of abstraction. In general, related instruction is intended to give breadth to the limited specialization found on the cooperative job. In other words, even the related instruction connected with cooperative education should try to approach the concrete level.

It is not unusual to hear students exclaim, "You need a CPA, an attorney, a semanticist, and a metaphysician to understand some of the explanations given by that professor. The highest grade in our course was achieved by a student who studied hieroglyphics."

This exaggrated comment points out the fact that a high level of abstraction is not always the most desirable in related instruction.

On-the-job training certainly gives a highly specialized and narrow taste of an experience. The job of related instruction is to give more breadth and overview. Attempts to avoid highly abstract terminology and concepts result in a better blending of on the job experience and related instruction. In this way, each is a natural extension of the other.

THREE EXAMPLES OF THE ALVIR APPROACH TO EVALUATION

In summary form, it is very easy to sum up this concrete approach to evaluation. Here are three typical rules that provide a good overview:

1. Enunciate or write goals
2. Verify a variety of yardsticks
3. Recognize all learning opportunities

RULE 1: ENUNCIATE OR WRITE GOALS

Goals enable learners and teachers to compare the results of the learner before and after instruction. Goals furnish a constant reminder as to what is expected. When the temperature gets warm or the outdoors is more attractive than indoors, goals keep the learner on the track. Try to turn a general goal into a specific objective. This is one way to place the goal out in the open for all to know and appreciate.

Goals come in many different sizes and types. Here are three examples:

KO or Knowledge Objectives refer to data.

PO or Performance Objectives refer to things.

AO or Attitude Objectives refer to people.

All three of these dimensions are necessary. The first time a cooperative educator writes out a goal, it is likely that only one of the trio of KO, PO, or AO will be put down on paper. After this occurs, it is the task of the educator to balance the cooperative educational program with the missing ingredients.

RULE 2: VERIFY A VARIETY OF YARDSTICKS

It is a commonplace to state that cooperative education evaluation must apply on-the-job standards. From the point of view of humanistic education, it is just as important to insist upon the use of gains score when and where appropriate. This refers to the delicate balancing of job standards with growth standards.

As far as timing is concerned, evaluation should be more than a pass or fail judgment. A certain amount of progress evaluation should be included in every program.

Evaluations and evaluation yardsticks come in many different sizes and types. Here are three examples:

> KE or KNOWLEDGE EVALUATIONS refer to the barometer ability to predict impending changes and trends.
>
> PE or PERFORMANCE EVALUATIONS refer to the weather vane ability to spot how the wind is currently blowing on the cooperative education scene.
>
> AE or ATTITUDE EVALUATIONS refer to the thermometer ability to keep track of human temperatures and emotions.

The new generation of cooperative education student is more demanding and more knowledgable. As a result, this challenge is even more interesting to the educator who uses a wide variety of evaluation instruments.

RULE 3: RECOGNIZE ALL LEARNING OPPORTUNITIES

Cooperative education students must be able to learn from experience. Experience includes both success and failure.

In addition to this ability to self-evaluate and self-motivate, the cooperative education student must be habituated to incorporate the unanticipated. Many of the valuable learning resources for cooperative education cannot be neatly prescheduled and anticipated. This activates the ability of the learner to be adaptive and creative in response to a constantly changing learning atmosphere.

Resources come in many different sizes and types. Here are three examples:

> KR or KNOWLEDGE RESOURCES refer to hundreds of inputs of learning that can be conceived as mechanized or computerized, either in reality or in organizational format.
>
> PR or PERFORMANCE RESOURCES refer to all kinds of human thermostats that can react to changing conditions by stressing appropriate learner responses.
>
> AR or ATTITUDE RESOURCES refer to ESP (extra-sensory perception) that enables learners to feel or anticipate what is coming next even before it happens.

All three types of the above learning resources are necessary. Different types of success have different causes just as different learning problems require different remedies. Not every teacher can anticipate every possible situation, but the resources provided should be plausible to the reasonably enthusiastic learner.

THREE IMPLEMENTATION CONCLUSIONS OF THE ALVIR APPROACH TO EVALUATION

In summary form, it is easy to sum up the conclusions of this approach. Here are three typical conclusions that provide a good overview:

CONCLUSION 1

Content should determine course length, not vice versa.

CONCLUSION 2

Trade task analysis objectives should determine the content, not vice versa.

CONCLUSION 3

Even the best content is seldom sufficient and adequate for an indeterminate future.

CONCLUSION 1: CONTENT SHOULD DETERMINE COURSE LENGTH, NOT VICE VERSA. Because content will vary from one area of specialization to another, it is essential that course length also vary. Any cooperative educator who falls back upon such a magic formula as 144 hours or a three year six semester program is doomed to failure by an excess of rigidity.

In any institution, when all the programs last the same length of time, one can reasonably suspect that something is wrong somewhere. In other words, every educational institution must have a place for a few short and quick programs. Similarily, in some technical programs, it would be a good idea to introduce the learner early in life to the concept of the 40 hour week. If students remain with the idea that 15 hours is the normal work week, such learners are going to be in for an unpleasant surprise.

CONCLUSION 2: TRADE TASK ANALYSIS OBJECTIVES SHOULD DETERMINE THE CONTENT, NOT VICE VERSA. It would be a misunderstanding of conclusion 1 to presume that past content is the guideline to course length. When conclusion 1 asserts that content should determine course length, it is meant that the content of the technical task is more important than the content of previous lesson plans bearing the name of the trade specialty in question.

The one reason why people repeat over and over the same program is simply to avoid red tape. Such conformists apparently have heard little about regionalization as an expression of cooperative education. Sometimes, this adherence to formality is based upon the experience of educators who have found out that it often takes two years for minor modification.

From a more practical point of view, many work study programs started out as a money maker to allow the learner to stay in school. After a while, these programs ended up as hybrids in order to justify existence in an academic setting. This is still another reason to go back to on-the-job standards to determine course objectives based upon actual task analysis.

CONCLUSION 3: EVEN THE BEST CONTENT IS SELDOM SUFFICIENT AND ADEQUATE FOR AN INDETERMINATE FUTURE. Thus, even if there were once only one way to do it, any program that avoids change is forgetting about the future.

On occasion, educators look to laws and statutes as magic formulae or unchangeable alternatives.

The learner, as well as the educator, must make many assumptions about the future. Is the past to be repeated? Is it probable that what worked today will work tomorrow? How far into the future can our long-range projections go without serious error?

The answers to these questions require evaluation. In this context, evaluation is seen as a very specific way to improve learning success.

PART 2

IMPLICATIONS DEVELOPED BY PARTICIPANTS

AN OVERVIEW

The following two pages are divided in two columns.

Column 1 is entitled PROGRAM EVALUATION EXPECTATION.

Column 2 is entitled EVALUATION SUGGESTION.

These two pages provide a resume of what the participants expected; this is provided in the column entitled PROGRAM EVALUATION EXPECTATION.

The second column entitled EVALUATION SUGGESTION summarizes what the participants brought to the conference in the way of suggestions.

As an exercise to the reader, it is suggested that the reader go through both columns with a pencil in hand. Whenever the reader discovers an expectation or suggestion that is clear, each clear item is marked with a C. Whenever the reader comes across an expectation or suggestion that is unclear, this item is marked with UC.

This rapid survey of the following two pages will help the reader clarify the initial understanding of part 2. Similarly, this initial analysis will give the reader a better idea of what participants at the evaluation conference did with the presentation made by the present author.

APPLICATIONS DEVELOPED BY PARTICIPANTS

PROGRAM EVALUATION EXPECTATION	EVALUATION SUGGESTION
1. Document learner success due to staff development (where are students helped?)	1. a. Write it down (Plan or Goal) b. Stick to it (Program)
2. Pinpoint convincing and uncomplicated evidence that documents program success beyond opinion and hearsay	2. Use a consistent form, format, or booklet
3. Cost-Justify evaluation expenses	3. Administer "progress checks" in each unit-function before it's too late, prior to one final evaluation
4. Specify "progress" advantages of coop over conventional	4. Utilize authentic work even in simulation (e.g., type wills in a law office, not invoices)
5. Measure progress levels in an office environment as opposed to simulation in a classroom	5. React to student evaluation criteria: What value is this course or experience? Should a change be made?
6. Decide where to evaluate? Whole program, a specific part or area?	6. Gather consumers data (i.e., from the student)
7. Decide: (a) Who would do the evaluation? (b) What kind of followup will be done?	7. Do something different as a result of the evaluation: Act on the recommendations verbally, operationally, and structurally
8. Specify criteria for evaluation	8. Elaborate clearly what is being researched instead of hinting at it
9. Identify available ready-made tools or instruments and the range of costs connected with each alternative	9. Funnel the evaluation report to the right person
10. Refer to results and scientific surveys that demonstrate the usefulness to students	10. Offer experiences with style in place of courses. Style is how one does things
11. Factor out the natural selection effect to isolate how much success is due to the program	11. Realize the employer will provide academic evaluation of the learner

PROGRAM EVALUATION EXPECTATION	EVALUATION SUGGESTION
12. Give employers more than just the leftover time in schedule	12. Get a sense of direction via shared plans and discoveries
13. Define program success in realistic terms	13. Grow on the job as well as function under constant supervision
14. Start up an evaluation program	14. Study feasibility of: (a) Calendar and curriculum (b) Student participation (c) Employer participation (d) Coordination staff (e) Rules and Regulations (f) Program funding
15. Rank the evaluative criteria in terms of importance (from most important downward...)	15. Be fair, admit biases and gather the facts
16. Determine the difference between the plan (What I wanted to do?) and the product (What I did?)	16. Intermingle the evaluator and person evaluated in a common participating effort
17. Gain an overview of what is happening	17. Pick the best questions and inquiry tools to get the most accurate results
18. Catch up on the current "in" words	18. Admit the problems, without panic, but with a step forward
19. Design for diversity	19. Define operationally: function for function, dollar for dollar, goal for goal

After examining the above two columns, the reader is now ready for a detailed analysis. The reason for this detailed analysis is to make sure that the program evaluation expectations and suggestions are used to document learner progress.

ANALYZING EXPECTANCIES AND SUGGESTIONS ON FOUR DIFFERENT LEVELS

Throughout this document, evaluation is considered an effective means of improving program success. This success is always measured in terms of learner accomplishment.

In the area of inservice education, several distinctions are in order.

1. Very often, classroom teachers are the learners for the inservice education.

2. This would reasonably lead the instructor of inservice education to conclude that the success of the teachers attending these sessions is the best way to measure the success of each session.

3. This over-simplification forgets that the real recipients of inservice education are the learners under the tutelage of the teachers instructed during a staff development inservice session.

All of these elements are important. There are many ways to systematize the levels of expectancy of the teachers in attendance.

The message chosen here is four level analysis: Level I refers to the fact that the teacher acquires a new competency at an inservice staff development training session. This competency could be the ability to evaluate more effectively.

Level II refers to the fact that the teacher tries to exercise this newly acquired competency back home in a school or classroom situation. Success on Level II means that the teacher has made an honest effort to improve.

Level III is the situation wherein a teacher makes an honest effort to exercise the competency and to adapt the competency to local conditions. This sometimes includes overcoming barriers and obstacles that vary from one setting to another. This could even mean that a teacher who applies a new competency in one way in a specific school will be obliged to change the application in another school in response to the local environment.

Level IV refers to the fact that a teacher with a new competency is able to document learner success due to this competency. Success at this level is the desired end product of all inservice staff development. When the educator is able to produce evidence of benefits to learners, the benefit analysis of education has gone the complete circle. In such a situation, educational dollars are well spent.

The reader is invited to look at the following page entitled, LEVELS OF EXPECTANCY. These four levels of expectancy are illustrated from the preceding section on participant expectations.

The following page entitled, LEVELS OF SUGGESTIONS FROM PROGRAM EVALUATORS is a similar analysis performed on the suggestions submitted by participants.

Looking at both of these four level analyses will help the cooperative educator evaluator recognize the importance of all four levels.

While examining the following two pages and the four level analysis contained therein, the reader is urged to recall the fact that this material comes from a random sample of cooperative educators. There are many other equally good possibilities. The point here is to avoid getting bogged down in such a large number of low level possibilities that the evaluator loses sight of documenting impact on the learner. As a result of evaluation, learners are expected to improve if the only result of evaluation is grading and sorting of learners, the evaluation that results from this is certainly missing something. This missing component is the impact on learners.

LEVELS OF EXPECTANCY

LEVEL I: Acquire Competency

1. Specify progress advantages of this competency
2. Identify available ready-made tools and instruments
3. Refer to results and scientific surveys that demonstrate usefulness to students
4. Define program success in realistic expectations and language
5. Rank evaluation criteria in terms of importance (from urgent to routine)
6. Gain an overview of what is happening
7. Catch up on the "in" words

LEVEL II: Exercise Competency

1. Decide where and what to evaluate
2. Specify criteria for evaluation
3. Factor out the natural selection effect to isolate how much success is due to the program
4. Start up evaluation program
5. Design for diversity

LEVEL III: Adapt Competency

1. Cost-Justify local evaluation expenses
2. Decide who will conduct evaluation
3. Decide what kind of followup will be done
4. Give employers more than just the leftover time in the schedule
5. Involve non-project staff in most operations

LEVEL IV: Document Learner Success Due to Competency

1. Document instances of where learners are helped
2. Pinpoint convincing and uncomplicated evidence of learner success
3. Measure progress levels in a free enterprise work environment
4. Determine the difference between the plan and the learner product
5. Correlate evaluation by employer supervisor and school supervisor
6. Respond to learner-operated program evaluations

This four level analysis of expectancies held by cooperative educators is paralleled by the next page which make a four level analysis of suggestions originating from these same educators.

LEVELS OF SUGGESTIONS
from Program Evaluators

LEVEL I: Acquire Competency

1. Use a consistent approach (form, format, procedures)
2. Elaborate clearly what is being evaluated
3. Get a sense of direction via shared plans and discoveries
4. Study feasibility of (a) calendar and curriculum
   (b) student participation
   (c) employer participation
   (d) coordination staff
   (e) rules and regulations
   (f) program funding

LEVEL II: Exercise Competency

1. Write the plan down simply. Stick to the plan till completion
2. Utilize authentic work tasks even in simulation
3. Gather consumer data from the learners
4. Offer experiences in place of lecture courses
5. Pick out the best questions and inquiry tools to get the most accurate results

LEVEL III: Adapt Competency

1. Administer progress checks, long before the final evaluation
2. React to learner evaluation criteria
3. Do something different as a result of any evaluation
4. Funnel the evaluation report and recommendations to the right person
5. Realize that employers will provide academic evaluations
6. Admit the problems, without panic, but with a step forward
7. Define operationally, function to function, dollar for dollar, goal for goal
8. Listen to individuals among the participants

LEVEL IV: Document Learner Success Due to Competency

1. Pinpoint growth on the job as well as functioning under constant supervision
2. Be fair, admit biases, and gather the facts
3. Intermingle the evaluator and the person evaluated in a common participatory effort
4. React to individuals for the benefit of the individual

REACTING TO ALL THIS MATERIAL

The basic idea of part 2 is that participants at a cooperative education evaluation conference reacted to part 1 of this document by producing individualized plans of attack. In a similar manner, readers of part 1 and part 2 are invited to adapt this material for local implementation.

In order to facilitate the development of local solutions by local staff for local problems, the following page entitled FOUR LEVELS OF COMPETENCY (ADVISOR CENTERED) is presented.

This four level analysis was developed by an educator who had finished reading part 1 and the preceding pages of part 2.

Each reader of this document is invited to carefully study these four levels of competency with the intent of doing the same thing for the local program. Any educator who is able to apply this material to the local situation is thereby qualified to turn evaluation into a tool for improving effectiveness.

Of course, no claim is made that the first effort of four level analysis will succeed. However, any educator, who notices that one or two of the levels is empty, is thereby able to balance out the task.

Obviously, level IV,in which learner success is documented, is the most important. However, the other levels must not be neglected since each of these levels contributes to the eventual success of the learner.

FOUR LEVELS OF COMPETENCY
Advisor-Centered

I - Possess Competency (Competency here refers to teacher-administrator ability in cooperative education).

A. Administrative Interest
B. Coordinator Qualification
C. Parent Orientation and Permission
D. Active and Meaningful Advisory Committees
E. Academic Teacher Support

II - Implement Competency

A. Administrative Support
B. Coordinator Performance
C. Course Content
D. Student Selection
E. Use of Training Outlines

III - Adapt Competency Locally

A. Coordinator Time Available for Supervision
B. School Physical Teaching Facilities
C. Survey of Community Facilities
D. School Guidance Cooperation in Scheduling
E. Job Stations

IV - Document Learner Success Due to Competency

A. Job Relevance to Student Needs
B. Student Performance on Job
   1. Evaluation by School Supervisor
   2. Evaluation by Employer Supervisor
C. Fulfillment of Learner-Centered Program Objectives
D. Learner Followup after Completion of Program

Each reader is asked to reflect upon local situations in order to come up with a similar analysis based upon the four levels of competency. This local adaptation will make the approach to evaluation herein stressed more practical and meaningful.

USING MATRIX ANALYSIS TO SWITCH OVER FROM TEACHER-CENTERED TO LEARNER-CENTERED EVALUATION

The diagram on the following page contains 9 components. Each of these components is identified by a two letter code.

K is the indicator of the knowledge or data domain

P is the indicator of the performance or things domain

A is the indicator of the attitutde or people domain

O is the indicator of the objectives, goals, or targets dimensions

E is the indicator of the evaluations, tests, or measurement dimensions

R is the indicator of the resources, technology, or methods dimension

Thus, KO stands for knowledge objectives, PE stands for performance evaluations, AR stands for attitude resources, and so forth. The preceding page entitled FOUR LEVELS OF COMPETENCY: ADVISOR CENTERED was based upon the functions of the teacher. The following page entitled MATRIX ANALYSIS: LEARNER CENTERED is based upon the requirements of the students. In many ways, the verbs on both pages are similar. Yet, in the last analysis, the verbs found on the matrix analysis tell what the learner will do. Thus, matrix analysis is on level IV which tries to document in one way or another all types of learner success.

The reader who has gone through the MATRIX ANALYSIS is in a good position to try to develop a matrix for local problems and priorities.

Coop Education
MATRIX ANALYSIS
(Learner-Centered)

O = Objectives (Targets)
E = Evaluation (Tests)
R = Resources (Technology)

K = Knowledge (Data)	P = Performance (Things)	A = Attitudes (People)
KO Learn through work Pinpoint up-to-date data Develop realistic expectations	**PO** Experience the actual operation of the world of work Achieve measurable productivity Put principles into practice	**AO** Develop proper work attitudes Mature and Function as an adult Appreciate values of free enterprise system and economic responsibility
KE Succeed on related classroom instruction exams Talk about enjoyable and profitable work and work-related experiences as well as problems Specify a rational and meaningful personally chosen plan	**PE** Hold a job by meeting expected performance standards with a satisfactory Progress on the job Fulfill learning agreement ans work agreement Gain seniority on the job and productivity-based salary increments	**AE** Satisfy employer Follow instructions willingly Describe convincingly individual commitment as a result of experience. Self-evaluate personal and occupational goals in light of first hand experience
KR Discuss off-campus requirements and details Choose voluntarily related reading material in newspapers, magazines, and media Confront new ideas, experiences, and responsibilities Participate actively in workshop type sessions with a variety of peers in a range of work occupations Visit nearby businesses and industries	**PR** Work for participating employers Keep a work record List accomplishments Write out the learning agreement and the work agreement as a "training" tool and contract	**AR** Get along with peer group co-workers Adapt to adults other than teachers and direct supervisors. Keep a diary of incidents React imaginatively and personally to work experience and attitudes encountered

LOOKING BACK AT FOUR LEVEL ANALYSIS AND MATRIX ANALYSIS

Four level competency analysis allows the advisor-centered approach to gradually move up to level IV where the learner is the primary interest. When level IV is reached, the matrix comes into play.

The matrix allows the educational community to pinpoint learner-centered objectives, evaluations, and resources in the knowledge, performance, and attitude domain.

This is why the matrix has been called a one page planning tool. Similarly, the matrix is a collection and classification of things the learner can do. In other words, the matrix helps educators define operationally the expectations made on learners.

CONCLUSION

When the evaluator has begun to think in terms of the learner, the evaluator is ready to consider evaluation as an effective tool to improve learner success. Evaluation improves learner success by documenting the impact of teacher and program competency on the learner.

The approach herein advocated is simply an analytical, organized, and balanced approach to this evaluation process.

Evaluators who employ this approach can take the best of what they are currently doing and combine these best elements with the best elements of other evaluators of similar programs. In this way, it is a spur to greater progress.

LEARNING ENVIRONMENTS

LEARNING ENVIRONMENT 1: ACTIVITY-BY-ACTIVITY EVALUATION (OBJ-1)

In order to provide an activity-by-activity evaluation that identifies objectives, time period, resources, personnel, and success of outcome, the following procedures may be employed.

1. Identify the major activities of the inservice education program.
2. Attach to each major activity in the program a short list of two or three objectives. Each of these objectives should begin with a verb. The subject of each of these verbs should be the participant attending the inservice education program.
3. Provide an evaluation form that lists, among other items, the objective number and a chance to rate it from very good, good, average, poor, or inferior.
4. Make sure that the above procedures are carried out with adequate explanation provided to participants as to what is desired in this type of evaluation.

This type of evaluation is done activity-by-activity on a very detailed level. This type of activity will provide a number of counts that can provide a session-by-session evaluation.

LEARNING ENVIRONMENT 2: IDENTIFY POSITIVE AND NEGATIVE FACTORS (OBJ-2)

After the activity-by-activity evaluation stressed in Learning Environment 1, the program director is able to form an overview.

This overview requires some simple way of keeping score whether by percentage or by total points.

For example, a typical overview could look like the following two columns. Column 1 is an identification of the session. Column 2 is an identification of the percentage of successful achievement of objectives.

Session Identification	Percent of Success
Session 1	95%
Session 2	60%
Session 3	40%
Session 4	90%
Session 5	30%

It is the task of the project director to identify activities or organizational mechanics which contributed or detracted from the overall objectives. Looking at the two columns above provides a very simple format to identify common factors that were either negative or positive.

After careful analysis of the reasons for the outstanding success of session 1 and 4, it is possible for the program director to conclude that success was due to:

Teacher personality
Media adaptation
Audience participation
Question and answer period
Open discussion
Group interest in the topic
Appropriateness of topics to the needs of the audience

These positive common factors should be stressed in future workshops as elements that contribute to success. These factors of success should be pointed out to the participants and instructors in order to reinforce the positive influence of these activities or organizational mechanics.

In addition to finding out common factors of success, the program director should look for weak links. This might mean that certain sessions such as 2, 3, and 5 were unsuccessful because of:

Too much reliance on the lecture method
A very dull presentation
Nothing new was said
The audience remained silent
Audience needs were not addressed
The topics covered were poorly presented

After looking at these specific negative factors on an activity-by-activity evaluation, the program director is able to pinpoint specific things that should be eliminated the next time around. Sometimes, an activity-by-activity analysis can identify activities or structures that can be changed immediately on the spot. This on line improvement will contribute to the overall success of the conference.

Learning Environment 1 has stressed a MICRO approach to evaluation. Learning Environment 2 has stressed a MACRO approach to evaluation. The micro approach zeroes in on details. The macro approach tries to form an overview of the inservice education program. Both elements are necessary for a well balanced evaluation.

LEARNING ENVIRONMENT 3: MAGER (OBJ-3)

It would be appropriate for project directors to become aware of some of the current literature on management by objectives and leadership by objectives, a few names would come to mind: Mager, Popham, and others.

These authors should be consulted either in textbooks or in journals in order to provide project directors with specific examples of how to evaluate a conference according to prespecified objectives.

One simple way to start would be to go to the ERIC collection and the attached RIE (Research in Education) index. Looking up topics of interest in this way would provide the project director with up-to-date information on a wide variety of approaches. After having looked at a wide variety of alternative activities and organizational mechanisms, the project director would be in a better position to individualize.

LEARNING ENVIRONMENT 4: IMPORTANT ATTITUDES (OBJ-3)

It is important for the inservice education program instructor to realize that a small percentage of teachers present among the participants are there principally for academic credit or the small stipend. The inservice program must be organized in such a way as to remotivate these teachers to participate to acquire a new competency.

A new competency can be acquired on four levels within the framework of inservice education programs:

LEVEL I: The teacher acquires a new competency
LEVEL II: The teacher applies this new competency back in the home school
LEVEL III: The teacher adapts this competency to local implementation circumstances and difficulties
LEVEL IV: The teacher documents the effectiveness of this new competency with specific examples of impact on student learning

In this way, an inservice instructor can take teachers who are present for a wide variety of motives and remotivate these teachers into a striving after new professional competency. This is a challenging task, but the reward is worth the effort.

LEARNING ENVIRONMENT 5: COUNTABLE RESULTS (OBJ-4)

One of the secrets of evaluation is to know what to count.

This means that the successful participant in inservice education programs must be able to go back to the home school with a definite idea of countable student successes that document the importance of the teacher competency acquired during a workshop.

For example, a teacher just ended a workshop on employability profiles. As a result of this workshop, the teacher was able to divide a printing course into five employability areas:

1. Operating the offset camera
2. Stripping the negatives
3. Making the plates
4. Operating the press
5. Binding printed material

With such an approach, the teacher was able to count partial as well as complete successes. A partial success would be an instance wherein a student was able to gain entry level employment in one of the five major areas. A complete success will be an instance wherein a student was able to obtain entry level employment in two or three of the major offset printing jobs.

The ability to count visible and measurable success in an important point in the type of followup necessary to measure the impact of inservice education programs.

LEARNING ENVIRONMENT 6: LOCAL PLANS FOR CLASSROOM TEACHERS (OBJ-5)

Some teachers go to a workshop with the anticipation of coming home with a prefabricated plan that requires very little investment of local planning time. Such prefabricated plans do not always work out.

The first step is for a teacher to acquire several examples of what has been found to work in a variety of individual circumstances.

The second step is for the teacher at the workshop to preview some of the first implementation steps that can be taken in light of the workshop period.

The third step at the workshop is for the group to preview local implementation difficulties. In some places, the schedule will be different, the students will be different, the barriers will be different, the problems will be different, and the reactions of the staff will be different.

In anticipating the necessity for local adaptation, the educator at an inservice education program will be in a better position to overcome local implementation difficulties.

After this has been done, the teacher should try to come up with countable examples that document learner success due to competency possessed by the teacher.

LEARNING ENVIRONMENT 7: FOLLOWUP EVALUATION INSTRUMENTS (OBJ-5)

It is highly desirable to find out what teachers did as a result of participating in inservice education programs.

There are some advantages in using a single instrument to tabulate the followup results by comparing one teacher with another. However, room should be left to give each person enough freedom to use individual ingenuity.

Sometimes, individual ingenuity is found expressed in a homemade followup instrument. The important point here is to make sure that the local followup instrument provides data that can be used by other educators in different schools and in different circumstances.

One simple followup technique is to use a telephone survey. This enables the project director to contact a selected sample of workshop participants in order to ask such questions as:

1. In what specific ways have you been able to use the knowledge, skills, or attitudes picked up at the inservice education program you recently attended?
2. How have you been able to document learner success related to competencies acquired at the recent inservice education workshop?

LEARNING ENVIRONMENT 8: BASELINE DATA INSTRUMENT (PRETEST-1-2-3)

It is the responsibility of the project director to come up with some type of an instrument to pinpoint precisely where the participants are at the beginning of the workshop in relation to the objectives of the workshop.

The gathering of such baseline data avoids the situation wherein most participants are exposed during the first few days to things they already know.

Possibly, such a baseline data check could be a duplicated instrument sent along with the application for the inservice workshop.

This baseline data instrument should include knowledge evaluation (KE), performance evaluation (PE), and attitude evaluation (AE).

> KE refers to things the participant already knows or has previously read about.
>
> PE refers to background experiences and present skill levels of the participants in the areas under study in the workshop.
>
> AE refers to sounding out the feelings and values of the participants with regard to the objectives, yardsticks, and procedures of the workshop.

This kind of a check on where the participants are should be done several weeks or months before the workshop. This type of diagnostic preassessing enables the workshop director to plan a program that is individually suited to the participants.

LEARNING ENVIRONMENT 9: DIFFERENT EVALUATION PERSPECTIVES (PRETEST-6)

Experience seems to indicate that even the best workshop will evoke a number of positive and negative comments on the part of participants. Whenever the comments are skewed too much in either the negative or positive direction, something is out of order.

Without going to either extreme, the negative extreme of pressing participants to find something wrong with an excellent workshop or the positive extreme of forcing participants to find something good about an inferior workshop, the evaluation should include both negative and positive observations.

One simple way to do this is to stress at least three different perspectives.

Perspective 1 could be the perspective of the workshop director and his objectives. This simply means that the workshop director keeps score and explains how his overall evaluation was arrived at.

The second perspective is that of the participants and their objectives. This simply means that each participant spells out the major anticipation for the workshop as well as the major results of this workshop when viewed from the individual's point of view.

The third perspective is that of outside evaluators. From a research and evaluation point of view, this would mean pinpointing things that can be duplicated elsewhere at a reasonable cost with good expectations of success. From a management point of view, this would mean deciding whether or not to conduct the institute the next year at the same site or at a different site, with the same workshop personnel or with different individuals.

The workshop director who is aware of these 3 different perspectives as well as a number of other possible differing expectations is in a good position to provide the type of evaluation that documents the overall impact of the workshop in contributing to educational progress.

LEARNING ENVIRONMENT 10: REALISTIC EXPECTATIONS (PRETEST-1-2-3)

The objectives proposed for a specific workshop should be realistic expectations. This means that the budget, the time available, the instructional personnel, and the participants are able to accomplish the prespecified objectives in the plan put forward.

As far as knowledge is concerned, two or three days should be more than adequate to convey the basic information and conceptual framework.

When a workshop has objectives that go into the performance or attitude domain, two or three consecutive days are normally adequate to the task. Sometimes, this type of a program can be arranged to have two or three one-day sessions several weeks apart. The time between sessions allows both staff and participants to readjust individual activities in order to achieve prespecified objectives with greater success.

The difference between a realistic expectation and an impossible dream depends upon a number of variables. A thorough awareness of the competencies of participants can have much impact here. Given the right project director, staff, and participants, almost any objective can be achieved if the budget, timetable, and resources are adequate.

However, the typical situation is that only so much can be achieved in a certain period of time given the constraints of the participants and staff. A realistic expectation requires an accurate and objective assessment of what can be done in a given period of time.

LEARNING ENVIRONMENT 11 SPECIFYING WHAT IS WANTED (OBJ-1)

It is sometimes interesting to take the view of an outside observer watching two different mentalities plan for an inservice workshop. One type of mentality is constantly asking and answering the question, "What is wanted!" This type of person zeroes in on objectives, purposes, and benefits. The results of such an inquiry are usually specific and measurable.

A second type of mentality is constantly asking and answering in a dozen different ways the question, "Who is going to teach this workshop?" This type of person possibly has a pal or crony in mind. The difficulty arises from the fact that the well qualified associate may be more on the mind of the planner than the needs of the typical participant for whom the workshop is being designed.

There is nothing the matter with either of the above questions. On the other hand, the two questions are not equivalent. The two questions are not of equal value. The first question to be asked in planning a workshop is, "What is wanted?" The next question, which must come after the first question has been answered, is,"Who will teach in the workshop?"

The practical advantage of asking the first question first is obviouly found in the ability to come up with a large number of answers for the second question if the objectives of the workshop are precisely spelled out. When a specific desired product of a workshop is clearly identified, the personnel involved are able to produce this result with a number of different people, at a number of different price tags, in a number of different ways, and in a variety of different circumstances. Anyone who asks the second question first is like somebody who wants to go from city X to city Y but only by a specific road. If the road is chosen before the destination, it is quite likely that a new express highway will never be utilized by a planner who chooses the path before the destination.

LEARNING ENVIRONMENT 12 DISTINGUISHING BETWEEN A CATALOGUE AND A BLUEPRINT (OBJ-1, OBJ-2)

The term LEARNING ENVIRONMENT has been used in place of guidelines, criteria, or directives for the evaluation techniques herein suggested. A catalogue lists a large number of items from which each individual will choose one or two appropriate tools. A blueprint lists everything that must be included in order to make the construction complete. With these definitions in mind, this collection of learning environments is more like a catalogue than a blueprint.

As in pro football, this collection is like a play book. It is a good list that gives a wide variety of alternatives. Each project director is to consider himself an evaluation coach who will choose one play or strategy at a time. The exact choice will be made to match the local team available and other individual constraints.

The inexperienced project director will feel it obligatory to cover every learning environment in this collection. The hesitant project director might even feel it necessary to regurgitate this catalogue of evaluation examples with only a few words changed to avoid total plagarism. Both of these errors boil down to confusing this catalogue with a detailed blueprint.

This collection encourages project directors to think seriously about evaluation. The proof and result of this serious thinking is to be a documented plan worked out by each individual workshop director. This workshop director will spell out individual objectives and targets. In order to make evaluation more objective, each workshop director will spell out a number of acceptable yardsticks with which to measure progress. Some yardsticks will be original, others will be borrowed, and others will be adaptations or combinations of successful strategies found elsewhere.

With this perspective, any hypothetical case presented in any learning environment is to be interpreted as an example rather than as a specification. This example is intended to show what could be done in order to give a concrete example in place of abstractions. Obviously, the workshop director who would copy this example detail for detail would be manifesting a certain amount of incompetency since it is difficult to assume that local situations would exactly parallel the circumstances under which this example was developed.

LEARNING ENVIRONMENT 13

Here is where each reader writes in an idea, strategy, or value not cited above.